

FILE 'HOME' ENTERED AT 10:38:52 ON 30 JAN 2007

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 10:39:02 ON 30 JAN 2007

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STRUCTURE FILE UPDATES: 29 JAN 2007 HIGHEST RN 918776-45-1

DICTIONARY FILE UPDATES: 29 JAN 2007 HIGHEST RN 918776-45-1

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TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

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<http://www.cas.org/ONLINE/UG/regprops.html>

=> magnesium bistrifluoromethanesulfonimide/CN

MAGNESIUM IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system. For a list of commands available to you in the current file, enter "HELP COMMANDS" at an arrow prompt (=>).

=> s magnesium bistrifluoromethanesulfonimide/CN

L1 0 MAGNESIUM BISTRIFLUOROMETHANESULFONIMIDE/CN

=> s magnesium (w) bistrifluoromethanesulfonimide/CN

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'MAGNESIUM (W) BISTRIFLU'

96860 MAGNESIUM

0 BISTRIFLUOROMETHANESULFONIMIDE/CN

L2 0 MAGNESIUM (W) BISTRIFLUOROMETHANESULFONIMIDE/CN

=> e magnesium bistrifluoromethanesulfonimide/CN

E1 1 MAGNESIUM BISMUTHATE(III)/CN

E2 1 MAGNESIUM BISMUTHIDE (MG3BI2)/CN

E3 0 --> MAGNESIUM BISTRIFLUOROMETHANESULFONIMIDE/CN

E4 1 MAGNESIUM BISULFATE/CN

E5 1 MAGNESIUM BISULFATE MONOHYDRATE/CN

E6 1 MAGNESIUM BISULFITE/CN

E7 1 MAGNESIUM BISULFITE (28MG(H35SO3)2)/CN

E8 3 MAGNESIUM BORATE/CN

E9 1 MAGNESIUM BORATE (MG(B5O8)2)/CN

E10 1 MAGNESIUM BORATE (MG(BO2)2)/CN

E11 1 MAGNESIUM BORATE (MG2B2O5)/CN

E12 1 MAGNESIUM BORATE (MG2B2O5) DIHYDRATE/CN

=> e magnesium trifluoromethanesulfonimide/CN

E1	1	MAGNESIUM TRIFLUOROMETHANESULFONATE/CN
E2	1	MAGNESIUM TRIFLUOROMETHANESULFONATE (1:2)/CN
E3	0 -->	MAGNESIUM TRIFLUOROMETHANESULFONIMIDE/CN
E4	1	MAGNESIUM TRIHYDROETHYLBORATE/CN
E5	1	MAGNESIUM TRIHYDROGEN TRIPHOSPHATE/CN
E6	1	MAGNESIUM TRIHYDROPHOSPHONOBORATE, TETRAISOPROPYL ESTER/CN
E7	1	MAGNESIUM TRIHYDROXYPALMITATE/CN
E8	1	MAGNESIUM TRIISOBUTYLBOROHYDRIDE/CN
E9	1	MAGNESIUM TRIISOPROPOXYBOROHYDRIDE/CN
E10	1	MAGNESIUM TRIMETHOXYBOROHYDRIDE/CN
E11	1	MAGNESIUM TRINITRORESORCINATE/CN
E12	1	MAGNESIUM TRIOXALATOCHROMATE(III)/CN

=> e lithium bistrifluoromethanesulfonimide/CN

E1	1	LITHIUM BISOXALATODYSPROSATE(1-) PENTAHYDRATE/CN
E2	1	LITHIUM BISTRIFLAMIDE/CN
E3	0 -->	LITHIUM BISTRIFLUOROMETHANESULFONIMIDE/CN
E4	1	LITHIUM BISULFATE/CN
E5	1	LITHIUM BISULFITE/CN
E6	1	LITHIUM BITARTRATE/CN
E7	1	LITHIUM BITARTRATE MONOHYDRATE/CN
E8	1	LITHIUM BIURATE/CN
E9	1	LITHIUM BORACITE/CN
E10	1	LITHIUM BORACITE (B7LI4CLO12)/CN
E11	2	LITHIUM BORATE/CN
E12	1	LITHIUM BORATE (6LI210B4O7)/CN

=> e lithium trifluoromethanesulfonimide/CN

E1	1	LITHIUM TRIFLUOROMETHANESULFONATE (LISO3CF3)/CN
E2	1	LITHIUM TRIFLUOROMETHANESULFONATE COMPOUND WITH TETRAHYDROFURAN (1:1)/CN
E3	0 -->	LITHIUM TRIFLUOROMETHANESULFONIMIDE/CN
E4	1	LITHIUM TRIFLUOROMETHANESULFONYL (NONAFLUOROBUTANESULFONYL) IMIDE/CN
E5	1	LITHIUM TRIFLUOROMETHOXIDE/CN
E6	1	LITHIUM TRIFLUOROMETHOXOBORATE(1-)/CN
E7	1	LITHIUM TRIFLUOROTRIS (PERFLUOROETHYL) PHOSPHATE/CN
E8	1	LITHIUM TRIFLUOROTRIS (TRIFLUOROMETHYL) PHOSPHATE/CN
E9	1	LITHIUM TRIFLUOROVINYLSULFINATE/CN
E10	1	LITHIUM TRIHEXYLMAGNESATE/CN
E11	1	LITHIUM TRIHYDRIDO (TETRAHYDROBORATO) ALUMINATE(1-)/CN
E12	1	LITHIUM TRIHYDRIDOTRIS (TRIPHENYLPHOSPHINE) RUTHENATE(1-)/CN

=> s (1)/Mg and (4)/C and (12)/F and (4)/S and (8)/O and (2)/N

145346 (1)/MG  
 472977 (4)/C  
 26499 (12)/F  
 210687 (4)/S  
 668898 (8)/O  
 5925906 (2)/N

L3 2 (1)/MG AND (4)/C AND (12)/F AND (4)/S AND (8)/O AND (2)/N

=> d l3 1-2

L3 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2007 ACS on STN

RN 699012-52-7 REGISTRY

ED Entered STN: 25 Jun 2004

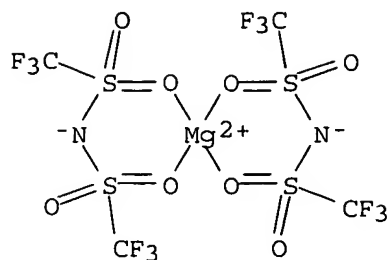
CN Magnesium, bis[1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl-  
 <O]methanesulfonamidato-<O]-, hydrate, (T-4)- (9CI) (CA INDEX  
 NAME)

MF C4 F12 Mg N2 O8 S4 . x H2 O

CI CCS

SR CAS Client Services

CRN (133395-16-1)



● x H<sub>2</sub>O

L3 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2007 ACS on STN

RN 133395-16-1 REGISTRY

ED Entered STN: 19 Apr 1991

CN Magnesium, bis[1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl-  
κO]methanesulfonamidato-κO]-, (T-4)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Magnesium, bis[1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]methanesulfona  
midato-ON,O1]-, (T-4)-

OTHER NAMES:

CN Magnesium bis(trifluoromethane sulfone)imide

CN Magnesium bis(trifluoromethylsulfonyl)imide

CN Magnesium trifluoromethanesulfonamide Mg[(CF<sub>3</sub>SO<sub>3</sub>)<sub>2</sub>N]<sub>2</sub>

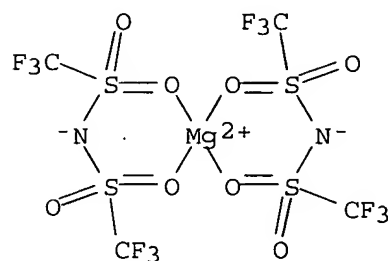
DR 779325-61-0, 880462-78-2, 890305-29-0, 906109-57-7, 689282-16-4,  
795315-98-9, 479192-18-2, 212554-05-7, 256483-66-6, 389138-05-0,  
460091-96-7, 536756-43-1

MF C4 F12 Mg N2 O8 S4

CI CCS, COM

SR CA

LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

44 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

44 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> file caplus

COST IN U.S. DOLLARS.

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

52.95

53.16

FILE 'CAPLUS' ENTERED AT 10:44:56 ON 30 JAN 2007  
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FILE COVERS 1907 - 30 Jan 2007 VOL 146 ISS 6  
FILE LAST UPDATED: 29 Jan 2007 (20070129/ED)

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=> s l3 and battery  
44 L3  
130693 BATTERY  
L4 14 L3 AND BATTERY

=> d l4 ibib kwic 1-14

L4 ANSWER 1 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2005:521398 CAPLUS  
DOCUMENT NUMBER: 143:214242  
TITLE: A novel polymeric gel electrolyte systems containing magnesium salt with ionic liquid  
AUTHOR(S): Yoshimoto, Nobuko; Shirai, Takahiro; Morita, Masayuki  
CORPORATE SOURCE: Department of Applied Chemistry and Chemical Engineering, Faculty of Engineering, Yamaguchi University, Ube, 755-8611, Japan  
SOURCE: Electrochimica Acta (2005), 50(19), 3866-3871  
CODEN: ELCAAV; ISSN: 0013-4686  
PUBLISHER: Elsevier B.V.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT Battery electrolytes  
Ionic liquids  
Secondary batteries  
(novel polymeric gel electrolyte systems containing magnesium salt with ionic liquid)  
IT 133395-16-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(novel polymeric gel electrolyte systems containing magnesium salt with ionic liquid)

L4 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2005:344652 CAPLUS  
DOCUMENT NUMBER: 142:395086  
TITLE: Secondary nonaqueous electrolyte battery  
INVENTOR(S): Dojo, Kazunori; Itaya, Shoji; Koga, Hideyuki;

PATENT ASSIGNEE(S): Fujimoto, Masahisa  
SOURCE: Sanyo Electric Co., Ltd., Japan  
Jpn. Kokai Tokkyo Koho, 8 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005108520	A	20050421	JP 2003-337884	20030929
PRIORITY APPLN. INFO.:			JP 2003-337884	20030929
TI	Secondary nonaqueous electrolyte battery			
AB	The battery has a cathode, a C containing anode, and a Mg salt containing nonaq. electrolyte; where the battery contains Li functioning as an active mass.			
ST	secondary battery electrolyte org magnesium salt			
IT	108-32-7, Propylene carbonate 7439-93-2, Lithium, uses 7440-25-7, Tantalum, uses 7782-42-5, Graphite, uses 133395-16-1			
RL:	DEV (Device component use); USES (Uses) (electrolytes containing magnesium salts for secondary lithium batteries)			

L4 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2004:1130231 CAPLUS  
DOCUMENT NUMBER: 142:414305  
TITLE: Ionic conductance behavior of polymeric gel electrolyte containing ionic liquid mixed with magnesium salt  
AUTHOR(S): Morita, Masayuki; Shirai, Takahiro; Yoshimoto, Nobuko; Ishikawa, Masashi  
CORPORATE SOURCE: Department of Applied Chemistry and Chemical Engineering, Faculty of Engineering, Yamaguchi University, Ube, 755-8611, Japan  
SOURCE: Journal of Power Sources (2005), 139(1-2), 351-355  
CODEN: JPSODZ; ISSN: 0378-7753  
PUBLISHER: Elsevier B.V.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ST ionic cond polymer gel electrolyte liq magnesium secondary battery  
IT Battery electrolytes  
Gels  
Ionic liquids  
Polarization  
Polymer electrolytes  
Secondary batteries  
Thermal analysis  
(ionic conductance behavior of polymeric gel electrolyte containing ionic liquid mixed with magnesium salt)  
IT 133395-16-1  
RL: DEV (Device component use); USES (Uses)  
(ionic conductance behavior of polymeric gel electrolyte containing ionic liquid mixed with magnesium salt)

L4 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2004:993801 CAPLUS  
DOCUMENT NUMBER: 141:426261  
TITLE: Nonaqueous electrolyte  
INVENTOR(S): Dojo, Kazunori; Koga, Hideyuki; Itaya, Shoji; Fujimoto, Masahisa  
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004327326	A	20041118	JP 2003-122459	20030425

PRIORITY APPLN. INFO.: JP 2003-122459 20030425

ST nonaq magnesium salt electrolyte soln amide solvent battery

IT Battery electrolytes  
(nonaq. magnesium salt electrolyte solns. containing amide solvents for secondary magnesium batteries)

IT 60-35-5, Acetamide, uses 68-12-2, Dmf, uses 75-12-7, Formamide, uses 79-16-3, N-Methyl acetamide 123-39-7, N-Methyl formamide 127-19-5, N,N-Dimethyl acetamide 617-84-5, N,N-Diethyl formamide 1187-58-2, N-Methyl propionamide 60871-83-2, Magnesium trifluoromethanesulfonate 133395-16-1

RL: TEM (Technical or engineered material use); USES (Uses)  
(nonaq. magnesium salt electrolyte solns. containing amide solvents for secondary magnesium batteries)

L4 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:876919 CAPLUS

DOCUMENT NUMBER: 141:368362

TITLE: Electrolyte and secondary battery which uses the electrolyte

INVENTOR(S): Miyaki, Yukio; Takada, Tomoo; Kawase, Kenichi; Iijima, Yukiko

PATENT ASSIGNEE(S): Sony Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004296315	A	20041021	JP 2003-88544	20030327

PRIORITY APPLN. INFO.: JP 2003-88544 20030327

TI Electrolyte and secondary battery which uses the electrolyte

AB The electrolyte has a F containing Li salt and a F containing Group II element salt. The battery has a cathode, an anode, and the above electrolyte.

ST secondary battery electrolyte Group IIa element salt

IT Battery electrolytes  
(electrolytes having F containing Group II element salts for secondary batteries)

IT 13814-93-2, Calcium tetrafluoroborate 14708-13-5, Magnesium tetrafluoroborate 21324-41-4, Barium hexafluorophosphate 55120-75-7, Calcium trifluoromethane sulfonate 78415-39-1, Calcium hexafluorophosphate 99001-64-6, Strontium hexafluorophosphate 113359-60-7 133395-16-1 165324-11-8

RL: MOA (Modifier or additive use); USES (Uses)  
(electrolytes having F containing Group II element salts for secondary batteries)

L4 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:802389 CAPLUS

DOCUMENT NUMBER: 141:280430

TITLE: Cathode active material for nonaqueous electrolyte secondary battery  
INVENTOR(S): Inoue, Takao; Fujimoto, Masahisa; Itaya, Masaharu  
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan  
SOURCE: U.S. Pat. Appl. Publ., 11 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004191628	A1	20040930	US 2004-801655	20040317
JP 2004288579	A	20041014	JP 2003-82305	20030325
KR 2004084761	A	20041006	KR 2004-19959	20040324
CN 1532967	A	20040929	CN 2004-10032263	20040325

PRIORITY APPLN. INFO.: JP 2003-82305 A 20030325

TI Cathode active material for nonaqueous electrolyte secondary battery

ST cathode active material nonaq electrolyte secondary battery

IT Battery cathodes  
(cathode active material for nonaq. electrolyte secondary battery)

IT Fluoropolymers, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(cathode active material for nonaq. electrolyte secondary battery)

IT Transition metal oxides  
RL: DEV (Device component use); USES (Uses)  
(lithiated; cathode active material for nonaq. electrolyte secondary battery)

IT Secondary batteries  
(lithium; cathode active material for nonaq. electrolyte secondary battery)

IT 96-48-0,  $\gamma$ -Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 7429-90-5, Aluminum, uses 12190-79-3, Cobalt lithium oxide colio2 21324-40-3, Lithium hexafluorophosphate 133395-16-1  
RL: DEV (Device component use); USES (Uses)  
(cathode active material for nonaq. electrolyte secondary battery)

IT 159967-11-0P, Lithium magnesium nickel oxide 175786-46-6P, Lithium magnesium manganese oxide 187144-48-5P, Cobalt lithium magnesium oxide 191110-10-8P, Iron lithium magnesium oxide  
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(cathode active material for nonaq. electrolyte secondary battery)

IT 24937-79-9, PvdF  
RL: MOA (Modifier or additive use); USES (Uses)  
(cathode active material for nonaq. electrolyte secondary battery)

L4 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:782114 CAPLUS

DOCUMENT NUMBER: 141:298684

TITLE: Nonaqueous-electrolyte battery with magnesium-based anode

INVENTOR(S): Koga, Hideyuki; Dojo, Kazunori; Itaya, Shoji; Fujimoto, Masahisa

PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	JP 2004265676	A	20040924	JP 2003-53548	20030228
PRIORITY APPLN. INFO.:				JP 2003-53548	20030228
TI	Nonaqueous-electrolyte battery with magnesium-based anode				
AB	The claimed battery is equipped with a cathode containing carbon fluoride CxF (x = 1-9), an anode containing Mg, and a nonaq. electrolyte containing a Mg imide salt or a Mg sulfonate salt. Preferably, the anode contains Mg, a Mg alloy, MgO, Si, C, and/or a transition metal sulfide. The battery provides high capacity and safety.				
ST	magnesium anode nonaq electrolyte battery safety				
IT	Transition metal sulfides				
	RL: DEV (Device component use); USES (Uses) (anode containing; nonaq.-electrolyte battery with magnesium-based anode)				
IT	Battery anodes				
	Safety				
	Secondary batteries				
	(nonaq.-electrolyte battery with magnesium-based anode)				
IT	Magnesium alloy, base				
	RL: DEV (Device component use); USES (Uses) (anode; nonaq.-electrolyte battery with magnesium-based anode)				
IT	7440-21-3, Silicon, uses 7440-44-0, Carbon, uses				
	RL: DEV (Device component use); USES (Uses) (anode containing; nonaq.-electrolyte battery with magnesium-based anode)				
IT	1309-48-4, Magnesium oxide, uses 7439-95-4, Magnesium, uses				
	RL: DEV (Device component use); USES (Uses) (anode; nonaq.-electrolyte battery with magnesium-based anode)				
IT	3889-75-6, Carbon fluoride (CF) 51311-17-2, Carbon fluoride				
	RL: DEV (Device component use); USES (Uses) (cathode; nonaq.-electrolyte battery with magnesium-based anode)				
IT	60871-83-2, Magnesium trifluoromethanesulfonate 133395-16-1				
	RL: DEV (Device component use); USES (Uses) (electrolyte; nonaq.-electrolyte battery with magnesium-based anode)				

L4 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:779292 CAPLUS

DOCUMENT NUMBER: 141:298678

TITLE: Nonaqueous-electrolyte battery with magnesium-based anode and sulfur cathode

INVENTOR(S): Koga, Hideyuki; Dojo, Kazunori; Itaya, Shoji; Fujimoto, Masahisa; Miyake, Masahide

PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004265675	A	20040924	JP 2003-53547	20030228



PRIORITY APPLN. INFO.:

JP 2003-53547

20030228

TI Nonaqueous-electrolyte battery with magnesium-based anode and sulfur cathode

AB The claimed battery is equipped with a cathode containing S, an anode containing Mg, and a nonaq. electrolyte containing a Mg salt.

Preferably,

the anode contains Mg, a Mg alloy, MgO, Si, C, and/or a transition metal sulfide. The battery provides high capacity and safety.

ST magnesium anode nonaq electrolyte battery safety; sulfur cathode nonaq electrolyte battery safety

IT Transition metal sulfides

RL: DEV (Device component use); USES (Uses)

(anode containing; nonaq.-electrolyte battery with magnesium-based anode and sulfur cathode)

IT Battery anodes

Battery cathodes

Safety

Secondary batteries

(nonaq.-electrolyte battery with magnesium-based anode and sulfur cathode)

IT Magnesium alloy, base

RL: DEV (Device component use); USES (Uses)

(anode; nonaq.-electrolyte battery with magnesium-based anode and sulfur cathode)

IT 7440-21-3, Silicon, uses 7440-44-0, Carbon, uses

RL: DEV (Device component use); USES (Uses)

(anode containing; nonaq.-electrolyte battery with magnesium-based anode and sulfur cathode)

IT 1309-48-4, Magnesium oxide, uses 7439-95-4, Magnesium, uses

RL: DEV (Device component use); USES (Uses)

(anode; nonaq.-electrolyte battery with magnesium-based anode and sulfur cathode)

IT 7704-34-9, Sulfur, uses

RL: DEV (Device component use); USES (Uses)

(cathode; nonaq.-electrolyte battery with magnesium-based anode and sulfur cathode)

IT 60871-83-2, Magnesium trifluoromethanesulfonate 133395-16-1

RL: DEV (Device component use); USES (Uses)

(electrolyte; nonaq.-electrolyte battery with magnesium-based anode and sulfur cathode)

L4 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:570455 CAPLUS

DOCUMENT NUMBER: 141:91879

TITLE: Method of preparation of electrolyte for nonaqueous battery

INVENTOR(S): Itaya, Masaharu; Miyake, Masahide; Fujimoto, Masahisa; Koga, Hideyuki; Donoue, Kazunori

PATENT ASSIGNEE(S): Japan

SOURCE: U.S. Pat. Appl. Publ., 7 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004137324	A1	20040715	US 2003-743746	20031224
JP 2004213991	A	20040729	JP 2002-381184	20021227
JP 2004265677	A	20040924	JP 2003-53549	20030228
PRIORITY APPLN. INFO.:			JP 2002-381184	A 20021227
			JP 2003-53549	A 20030228

TI Method of preparation of electrolyte for nonaqueous battery  
 AB An electrolyte for a nonaq. battery according to the present invention consists essentially of magnesium bistrifluoromethanesulfonimide  
 . An electrolytic solution for a nonaq. battery according to the present invention includes the magnesium bistrifluoromethanesulfonimide, and an organic solvent such as a cyclic carbonate, a chain carbonate, a cyclic ether and a chain ether or an ordinary temperature molten salt having a m.p. of 60° or less in which the magnesium bistrifluoromethanesulfonimide is dissolved.  
 ST electrolyte prepn nonaq magnesium ion battery  
 IT Esters, uses  
 Ethers, uses  
 RL: DEV (Device component use); USES (Uses)  
 (chain; method of preparation of electrolyte for nonaq. battery)  
 IT Ethers, uses  
 RL: DEV (Device component use); USES (Uses)  
 (cyclic; method of preparation of electrolyte for nonaq. battery)  
 IT Hydrocarbons, uses  
 RL: DEV (Device component use); USES (Uses)  
 (fluoro; method of preparation of electrolyte for nonaq. battery)  
 IT Secondary batteries  
 (magnesium ion; method of preparation of electrolyte for nonaq. battery)  
 IT Battery electrolytes  
 (method of preparation of electrolyte for nonaq. battery)  
 IT Crown ethers  
 Lactones  
 Transition metal sulfides  
 RL: DEV (Device component use); USES (Uses)  
 (method of preparation of electrolyte for nonaq. battery)  
 IT Imides  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (method of preparation of electrolyte for nonaq. battery)  
 IT Sulfonic acids, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (salts; method of preparation of electrolyte for nonaq. battery)  
 IT Imides  
 Sulfonic acids, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (sulfonimides, alkyl; method of preparation of electrolyte for nonaq. battery)  
 IT Magnesium alloy, base  
 RL: DEV (Device component use); USES (Uses)  
 (method of preparation of electrolyte for nonaq. battery)  
 IT 79-20-9, Methyl acetate 96-48-0,  $\gamma$ -Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 107-31-3, Methyl formate 108-29-2 108-32-7, Propylene carbonate 109-99-9, Thf, uses 110-71-4 126-33-0, Sulfolane 463-79-6D, Carbonic acid, ester, chain 463-79-6D, Carbonic acid, ester, cyclic 554-12-1, Methyl propionate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 1309-48-4, Magnesium oxide, uses 1333-38-6, Angelica lactone 7439-95-4, Magnesium, uses 7440-21-3, Silicon, uses 22251-34-9, Ethoxymethoxymethane 51311-17-2, Carbon fluoride 60871-83-2, Magnesium triflate 73506-93-1, Diethoxyethane 114435-02-8, FluoroEthylene carbonate 133395-16-1 268536-05-6, Trimethylpropylammonium-bis-(trifluoromethylsulfonyl)imide  
 RL: DEV (Device component use); USES (Uses)  
 (method of preparation of electrolyte for nonaq. battery)  
 IT 546-93-0, Magnesium carbonate 1309-42-8, Magnesium hydroxide  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (method of preparation of electrolyte for nonaq. battery)

ACCESSION NUMBER: 2004:392764 CAPLUS  
 DOCUMENT NUMBER: 140:393380  
 TITLE: Method of fabrication of rechargeable electrochemical cell  
 INVENTOR(S): Chung, Sai-Cheong; Nakayama, Yuri; Noda, Kazuhiro; Hatazawa, Tsuyonobu  
 PATENT ASSIGNEE(S): Sony Corporation, Japan  
 SOURCE: PCT Int. Appl., 36 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004040675	A2	20040513	WO 2003-JP13789	20031028
WO 2004040675	A3	20041125		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003274763	A1	20040525	AU 2003-274763	20031028
CN 1708874	A	20051214	CN 2003-80102154	20031028
JP 2006505109	T	20060209	JP 2004-548055	20031028
US 2006003229	A1	20060105	US 2005-532947	20050427
PRIORITY APPLN. INFO.:			US 2002-421949P	P 20021029
			WO 2003-JP13789	W 20031028

ST electrochem cell rechargeable fabrication method; battery rechargeable fabrication method  
 IT 68-12-2, Dmf, uses 75-05-8, Acetonitrile, uses 96-48-0, Butyrolactone 108-32-7, Propylene carbonate 109-99-9, Thf, uses 7782-42-5, Graphite, uses 10034-81-8, Magnesium perchlorate 12032-47-2 12039-13-3, Titanium sulfide (TiS<sub>2</sub>) 12054-17-0 13463-67-7, Titania, uses 22537-22-0, Magnesium ion, uses 133395-16-1, Magnesium bis(trifluoromethane sulfone)imide  
 RL: DEV (Device component use); USES (Uses)  
 (method of fabrication of rechargeable electrochem. cell)

L4 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:476026 CAPLUS  
 DOCUMENT NUMBER: 139:263222  
 TITLE: Rechargeable magnesium batteries with polymeric gel electrolytes containing magnesium salts  
 AUTHOR(S): Yoshimoto, Nobuko; Yakushiji, Shin; Ishikawa, Masashi; Morita, Masayuki  
 CORPORATE SOURCE: Faculty of Engineering, Department of Applied Chemistry and Chemical Engineering, Yamaguchi University, Ube, 755-8611, Japan  
 SOURCE: Electrochimica Acta (2003), 48(14-16), 2317-2322  
 CODEN: ELCAAV; ISSN: 0013-4686  
 PUBLISHER: Elsevier Science Ltd.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT  
 AB Novel polymeric gel electrolytes consisting of poly(ethylene

oxide)-modified poly(methacrylate) (PEO-PMA) with magnesium imide (Mg[(CF<sub>3</sub>SO<sub>2</sub>)<sub>2</sub>N]<sub>2</sub>) as the electrolytic salt and mixed alkyl carbonates as the plasticizer have been prepared by photo-induced radical polymerization. The polymeric gel film was flexible and self-standing with proper mech. strength. The ionic conductivity of the polymeric gel film was about 10<sup>-3</sup> S

cm<sup>-1</sup>

at room temperature. The ionic conductivity increased with the content of the plasticizer, ethylene carbonate (EC) and di-Me carbonate (DMC), in the complex, while the mech. strength of the gel film decreased with the increase in the plasticizer. The highest conductivity was obtained for the composition of 75 weight % of the plasticizing component, EC+DMC dissolving Mg[(CF<sub>3</sub>SO<sub>2</sub>)<sub>2</sub>N]<sub>2</sub> in the gel. The applicability of the present gel film to a rechargeable battery system was examined by a prototype cell consisting of Mg-doped V<sub>2</sub>O<sub>5</sub> and V<sub>2</sub>O<sub>5</sub> (or MnO<sub>2</sub>) as the neg. and pos. electrodes, resp.

ST rechargeable magnesium battery polymeric gel electrolyte  
magnesium salt

IT 133395-16-1

RL: NUU (Other use, unclassified); USES (Uses)

(rechargeable magnesium batteries with polymeric gel electrolytes containing magnesium salts)

L4 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:936892 CAPLUS

DOCUMENT NUMBER: 138:257747

TITLE: Ionic conductance behavior of polymeric electrolytes containing magnesium salts and their application to rechargeable batteries

AUTHOR(S): Yoshimoto, Nobuko; Yakushiji, Shin; Ishikawa, Masashi; Morita, Masayuki

CORPORATE SOURCE: Department of Applied Chemistry and Chemical Engineering, Yamaguchi University, Ube, 755-8611, Japan

SOURCE: Solid State Ionics (2002), 152-153, 259-266

CODEN: SSIOD3; ISSN: 0167-2738

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ST ionic conductance polymer electrolyte magnesium salt rechargeable battery.

IT Electric impedance

(equivalent circuits for assembled battery; ionic conductance behavior of polymeric electrolytes containing magnesium salts and their application to rechargeable batteries)

IT 10034-81-8D, Magnesium perchlorate, complexes with PEO-PMA matrix graft polymer and PEGDME 60871-83-2D, Magnesium trifluoromethanesulfonate, complexes with PEO-PMA matrix graft polymer and PEGDME 133395-16-1D, Magnesium bis(trifluoromethane sulfone)imide, complexes with PEO-PMA matrix graft polymer and PEGDME

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(ionic conductance behavior of polymeric electrolytes containing magnesium salts and their application to rechargeable batteries)

L4 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:761515 CAPLUS

DOCUMENT NUMBER: 136:105032

TITLE: Rechargeable magnesium batteries using a novel polymeric solid electrolyte

AUTHOR(S): Morita, Masayuki; Yoshimoto, Nobuko; Yakushiji, Shin;

CORPORATE SOURCE: Ishikawa, Masashi  
 Department of Applied Chemistry and Chemical  
 Engineering, Faculty of Engineering, Yamaguchi  
 University, Ube, 755-8611, Japan  
 SOURCE: Electrochemical and Solid-State Letters (2001), 4(11),  
 A177-A179  
 CODEN: ESLEF6; ISSN: 1099-0062  
 PUBLISHER: Electrochemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 REFERENCE COUNT: 22

THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB Solid-state magnesium batteries have been constructed with a novel  
 polymeric electrolyte that conducts Mg ion at ambient temperature. The polymer  
 electrolyte consisting of oligo(ethylene oxide)-grafted polymethacrylate  
 and a linear polyether dissolving an Mg salt showed as high ionic conductivity

as

0.4 mS cm<sup>-1</sup> at 60°. A test cell made of a V2O5 cathode and an Mg  
 metal anode (Mg/V2O5) with the Mg<sup>2+</sup>-conducting polymeric electrolyte  
 showed the first discharge capacity of about 100 mAh g (V2O5)<sup>-1</sup>. The  
 discharge capacity and the recharge-ability of the cell were improved when  
 Mg metal was substituted by Li metal. The discharge and recharge profile  
 of the cell using an Mg-doped V2O5 anode (Mg<sub>x</sub>V2O5/V2O5) proved that the  
 present polymeric Mg<sup>2+</sup>-ion conductor will help to develop an all-solid  
 rechargeable Mg-ion battery.

ST magnesium rechargeable battery polymer electrolyte

IT 7439-95-4, Magnesium, processes 133395-16-1 167763-01-1

RL: PEP (Physical, engineering or chemical process); PRP (Properties);

PROC (Process)

(rechargeable magnesium batteries using novel polymeric solid  
 electrolyte)

L4 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:698847 CAPLUS

DOCUMENT NUMBER: 123:88377

TITLE: Electrode material for electrochemical batteries, and  
 the lithium batteries obtained

INVENTOR(S): Andrieu, Xavier; Rambla, Beatrice

PATENT ASSIGNEE(S): Alcatel Alsthom Compagnie Generale d'Electricite, Fr.

SOURCE: Eur. Pat. Appl., 13 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 650208	A1	19950426	EP 1994-402335	19941018
EP 650208	B1	19980610		
R: DE, DK, FR, GB, IT				
FR 2711843	A1	19950505	FR 1993-12570	19931021
FR 2711843	B1	19951201		
CA 2133912	A1	19950422	CA 1994-2133912	19941020
US 5496662	A	19960305	US 1994-326215	19941020
JP 07254413	A	19951003	JP 1994-256660	19941021
PRIORITY APPLN. INFO.:			FR 1993-12570	A 19931021

AB The electrodes comprise an electronic and an ionic conductor, which is a  
 S-containing polymer having a polyether structure containing bonds capable of  
 being reversibly oxidized and reduced, and an ionizable salt. The  
 polyether contains 2 terminal dithioimide groups and has general formula I  
 (R = polyether). Jeffamine 400 (polyoxypropylene diamine) was reacted in  
 CHCl<sub>3</sub> with N(Et)<sub>3</sub> in the presence of S<sub>2</sub>Cl<sub>2</sub> to give a polymer that was

mixed with propylene carbonate, LiClO<sub>4</sub>, and PTFE-bonded carbon black. The resulting electrode was used, together with a Li counter electrode to manufacture a button-type battery having sp. capacity 72 A.h/kg.

ST polyether dithioimide electrode lithium battery; carbon  
polyether dithioimide electrode; perchlorate lithium carbon polyether  
electrode

IT Electrodes

(battery, electronically and ionically conductive  
material-containing electrodes for lithium batteries)

IT 2926-27-4, Potassium trifluoromethanesulfonate 2926-30-9, Sodium  
trifluoromethanesulfonate 7601-89-0, Sodium perchlorate 7778-74-7  
7782-42-5, Graphite, uses 7790-98-9, Ammonium perchlorate 7791-03-9  
10034-81-8, Magnesium perchlorate 12005-86-6, Sodium hexafluoroarsenate  
13477-36-6, Calcium perchlorate 13755-29-8, Sodium tetrafluoroborate  
13814-93-2, Calcium tetrafluoroborate 13826-83-0, Ammonium  
tetrafluoroborate 14075-53-7, Potassium tetrafluoroborate 14283-07-9,  
Lithium tetrafluoroborate 14708-13-5, Magnesium tetrafluoroborate  
16941-11-0, Ammonium hexafluorophosphate 17029-22-0, Potassium  
hexafluoroarsenate 17068-86-9, 17084-13-8, Potassium  
hexafluorophosphate 21324-39-0, Sodium hexafluorophosphate 21324-40-3,  
Lithium hexafluorophosphate 23377-90-4, Ammonium hexafluoroarsenate  
29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium  
trifluoromethanesulfonate 38542-94-8, Ammonium trifluoromethanesulfonate  
55120-75-7, Calcium trifluoromethanesulfonate 60871-83-2, Magnesium  
trifluoromethanesulfonate 73848-10-9, Magnesium hexafluoroarsenate  
78415-39-1 90076-65-6 90076-67-8 91742-21-1 113359-60-7  
114395-69-6 132404-42-3 133395-16-1 156088-05-0  
165324-08-3 165324-09-4 165324-10-7 165324-11-8 165324-14-1

RL: NUU (Other use, unclassified); USES (Uses)

(electronically and ionically conductive material-containing electrodes for  
lithium batteries)